Amendments to the Specification

Please replace paragraph [0073] with the following amended paragraph:

[0073]   Figure 5 shows the relative areas of the components of Figure 4. The area of the inner diameter of the measurement cell 100 is shown by region 500. This has a cell radius 501. The inner radius of the magnet (that is, the radius of the magnet bore 490 in Figure 4) is shown at reference numeral 511 in Figure 5, and this is the radius of the area 510. Finally, the reference numeral 521 denotes the axial length between the magnetic centre of the magnet (which corresponds with the geometric centre of the measurement cell 100 in preference) to the closer end face of the magnet which is, as explained above, in preference geometrically asymmetric. We define a ratio R which is the ~~radio~~ ratio of the sectional area within the magnet bore, 510, measured in a plane perpendicular to the longitudinal axis of the magnet bore, relative to the area of the inside of the measurement cell 100 (reference numeral 500 in Figure 5). For systems with a magnet inner diameter less than 100mm, it has been found that, especially for preferred cylindrical cells, R should be less than 4.25. In the most preferred implementation, which we currently implement, a cell with an inner diameter of 55mm and a magnet bore diameter of 95mm is used, so that R = 2.983. Selecting a small R has a particular benefit in conjunction with a short length vacuum system and magnet, for example, there is particular benefit to having a small R and a distance 521 which is less than 600mm.